REMARKS

It is noted that the Examiner has withdrawn (Office Action page 2, paragraph 1) the Restriction Requirement presented in the Office Action dated April 24, 2003.

Definiteness. The Examiner rejects claims 4 and 5 (Office Action page 2, paragraphs 3-5) for use of the pronoun "it". In response to this rejection the claims have been amended to overcome the rejection.

Unobviousness. The Examiner rejects all claims as supposedly obvious over US Pat. No. 6,343,287 to Kumar et al. ("Kumar"), taken in combination with particular disclosures in the specification.

It may be helpful to summarize briefly the main aspects of the invention of Kumar.

Kumar describes an invention which provides an interface to integrate, store, retrieve, and manage reference information about entities. The goals of their invention are to simplify the distribution of profile information as well as to avoid any duplication of profile information. Their solution is applicable to environments where Directories are used to store profile information. A Directory is a piece of software executed on a server computer, which provides mechanisms for storing and retrieving profile information. A Directory is passive in that client applications explicitly must request profile information from a Directory, using a request/response communications interaction (often called an information "pull" model). This means that Directories typically cannot actively and efficiently distribute frequently changing information. Hence their invention is limited to environments where data is frequently searched, but infrequently changed (See Kumar column 6, lines 65-67). This is called "read-mostly" access to data. Their invention further foresees the usage of "protocol adapters" to support communication with a client (column 10, lines 5-10). "Protocol adapters" are characterized as translating messages (Column 10, lines 28-35).

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The claimed invention is directed to the asynchronous "push" delivery of information over any transport protocol, using pluggable protocol adapters, message format adapters, and message content adapters. It is targeted at message oriented middleware (MOM).

The Examiner is respectfully requested to consider that Directories are targeted at managing data which changes infrequently and which is accessed in a read-mostly manner, whereas MOM is conceived to handle volatile data which changes frequently. Directories are accessed in a request/response manner from a client to a server. MOM systems, on the other hand, use asynchronous "push" delivery of volatile information, from a server to one or multiple clients. Thus, the internal structure and function of a directory service that processes requests and responses on the one hand and a MOM system that processes arbitrary message types on the other are completely different. It would therefore not have been obvious for one versed in the art to have applied Kumar's "protocol adapters" in the context of a MOM system.

Even if someone had attempted to use Kumar's "protocol adapter" for a MOM system, it would not work even in principle, due to the differences in communication style (push versus pull) and data volatility.

These differences give rise to a series of differences in internal structure and function of the different kinds of protocol adapters

Kumar's "protocol adapters" are geared towards a request/reply communication scheme, whereas the protocol adapters according to the invention are designed for asynchronous push delivery of information.

Kumar's "protocol adapters" transmit information and control parameters corresponding to directory services, whereas the protocol adapters according to the invention must transmit information and control parameters that support publish/subscribe and multicast information distribution services.

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Kumar's "protocol adapters" implement a one-to-one point-to-point connection, whereas the protocol adapters according to the invention involve one-to-many communication.

Kumar's "protocol adapters" use mainly session layer protocols such as CORBA, LDAP, RMI suited for the communication between general purpose computers or servers, whereas, the protocol adapters according to the invention use mainly transport layer protocols such as TCP, UDP, IP Multicast, WAP, DAB, GPRS, SMS, IRDA etc. typically used by small scale end-user devices

For all these reasons, using Kumar's "protocol adapters" in a MOM system is neither obvious nor does it lead to a functioning system. Stated differently, Kumar is non-analogous art relative to the subject matter of the claimed invention.

Therefore, it is respectfully suggested that independent claims 1, 8, 11 and 12 are not obvious.

Respectfully submitted,

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